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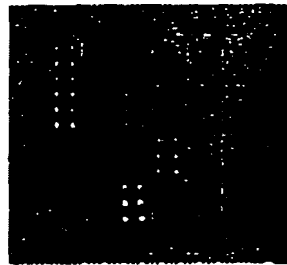
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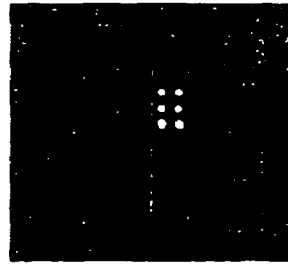
(54) Title: ANALYTICAL CHIP WITH AN ARRAY OF IMMOBILIZED SPECIFIC RECOGNITION ELEMENTS FOR THE DETERMINATION OF CLINICALLY RELEVANT BACTERIA AND ANALYTICAL METHOD BASED THEREON



*Staphylococcus  
epidermidis*



*Staphylococcus  
aureus*



*Pseudomonas  
aeruginosa*

(57) Abstract: The invention is related to an analytical chip for the simultaneous determination of one or more different bacterial 16S-rRNA in a liquid sample comprising - an evanescent field measurement platform, e.g. an optical waveguide, as a solid carrier and - a plurality of specific recognition elements immobilized in discrete measurement areas of known location forming an array of measurement areas on said evanescent field measurement platform, wherein - a multitude (i.e. 2 or more) of different specific recognition elements is immobilized in discrete measurement areas for the recognition and detection of each different 16S-rRNA, different recognition elements being specific for different subsequences of the 16S-rRNA to be detected, which are not directly adjacent and not overlapping in the sequence of said 16S-rRNA, and - said analytical chip is operable for the detection of 16S-rRNA in the evanescent field of the evanescent field measurement platform, without an amplification (e.g. by polymerase chain reaction PCR or linear amplification "T7") of the polynucleotide sequences contained in the sample. The invention is also related to an analytical method based on the use of said analytical chip.